Food security in low developed countries – the case of the D.R. Congo

Roger Gaise N'Ganzi[1†], Ioana Mihaela Balan[2,3†*], Teodor Ioan Trasca[4†*], Raul Pascalau[5], Ioan Brad[2], Remus Gherman[2†], Camelia Tulcan[6,3], Emanuela Diana Gherman[2], Anamaria Roxana Martin[2]

[1] *Universite de l'Uele, Couvent Saint Dominique Kinshasa/Limete, Isiro - Kinshasa, QJJ8+P77, Democratic Republic of Congo*
[2] *University of Life Sciences "King Michael I of Romania" from Timisoara– Faculty of Management and Rural Tourism, Calea Aradului No.119, 300645 – Romania*
[3] *University of Life Sciences "King Michael I of Romania" from Timisoara - Research Institute for Biosecurity and Bioengineering Timisoara*
[4] *University of Life Sciences "King Michael I of Romania" from Timisoara– Faculty of Food Engineering, Calea Aradului No.119, 300645 – Romania*
[5] *University of Life Sciences "King Michael I of Romania" from Timisoara– Faculty of Agriculture, Calea Aradului No.119, 300645 – Romania*
[6] *University of Life Sciences "King Michael I of Romania" from Timisoara– Faculty of Horticulture and Forestry, Calea Aradului No.119, 300645 – Romania*

Abstract
The article focuses on food security in the least developed countries, through a case study of the Democratic Republic of Congo (D.R. Congo), a low-income country with a food deficit, with one of the lowest rates of gross domestic product per capita in the world. The article presents the context after gaining independence in 1960, the last five years, starting with 2017 and the current context of D.R. Congo in 2022, briefly developing the demographic situation, which have a direct impact on food security. The study has as inputs the data provided by the Integrated Food Security Phase Classification (IPC). The D.R. Congo continues to live in a particularly unstable political, economic, and social climate. If currently the western part of the country, including the capital Kinshasa, is no longer the scene of violent clashes and demonstrations, in many other provinces armed gangs, non-governmental militias, ex-military and tribal groups are active, carrying out assaults and raids with massacres of civilians. However, in the D.R. Congo, most deaths are not caused by the violence of the ongoing conflict in the African country, but rather by malnutrition and a poor medical system. Thus, food insecurity is one of the first two factors generating deaths in the D.R. Congo.

Keywords: Food security and insecurity, agriculture, IPC, economic growth, population growth

1. Introduction

As an estimate, in the first two years of the COVID-19 pandemic, the number of people severely food insecure globally doubled to 276 million. The number is expected to reach 323 million in 2022 due to the war in Ukraine. Least Developed Countries (LDCs) are particularly vulnerable to the crisis: more than 251 million people in LDCs are disproportionately affected by food insecurity, according to the Food and Agriculture Organization.[1]

The Democratic Republic of Congo (DRC) is the second largest country in Africa and is very rich in minerals and natural resources. For many decades,

* Corresponding author:
Ioana Mihaela Balan ioanabalan@usab-tm.ro
Teodor Ioan Trasca teodortrasca@usab-tm.ro

the DRC has suffered from several and acute crises: military conflicts, political problems, population displacement, epidemics, malnutrition, and severe food insecurity. Extreme poverty, displacement, lack of effective basic services and poor infrastructure have generated one of the world's worst humanitarian crises. [2]

In 2020, 15.64 million people in the DRC needed humanitarian assistance. Military conflicts and natural disasters have moved more than 5.2 million people, who are now displaced within the country. More than 21 million people are severely food insecure and 3.4 million children under the age of five are severely malnourished. [3]

2. Materials and methods

The Integrated Food Security Phase Classification (IPC) provides the unitary scale to establish the severity and extent of food insecurity and acute malnutrition, a tool that raises the level of rigor, transparency, relevance and comparability for conducting food security and nutrition analyses, useful for responsible decision makers. [4]

The IPC was implemented in 2004 for use in Somalia by the FAO Food Security and Nutrition Analysis Unit (FSNAU). Later, 15 organizations joined and formed a global partnership, which currently manages the development and implementation of IPC at all levels: global, regional, and national. With the experience already accumulated, IPC is currently one of the best practices in the field of global food security. It also represents an example of collaboration in over 30 countries in Latin America, Africa and Asia.[3]

In present research are analyzed the data provided by IPC, collected by: Action Against Hunger (actively involved in the IPC system at national and regional level and has joined the multi-agency global partnership with the aim of contributing to the constant evolution and improvement of surveillance and early warning systems), CARE International (a leading participant in the development and global implementation of the IPC through its membership in the IPC Global Partnership with the objective of incorporating and applying the IPC in the global humanitarian and food security policies and including the tool as a requirement in country level emergency planning processes), Food and Agriculture Organization of United Nations (play a key role in steering and coordinating the overall development and application of the IPC), and many others who are involved in food security programs (Famine Early Warning Systems Network, Global Food Security Cluster, Global Nutrition Cluster, e.g.). [4]

IPC is a platform whose purpose is to be able to ensure rigorous and neutral analyses, in order to achieve an objective technical consensus, which is based on real and conclusive evidence, useful to key stakeholders. At the same time, it represents an approach for consolidating extensive and comprehensive evidence, with the priority goal of classifying the levels of severity and extent of food insecurity and malnutrition, to identify their direct and indirect causes. Last but not least, the IPC provides information for drawing future strategies.[4]

The results of the IPC analyzes aim to provide information related to six determining aspects:

1. the gravity of the situation;
2. the moment when the analyzed populations will be affected;
3. the location of the most affected persons;
4. the number of people affected;
5. the reasons why it happens;
6. identification of the most affected people.

In order to clarify these six aspects, the IPC applies three scales:

1. acute food insecurity scale;
2. chronic food insecurity scale;
3. acute malnutrition scale.

The IPC clearly distinguishes between acute food insecurity, chronic food insecurity and acute malnutrition. [4]

The acute food insecurity (AFI) scale classified food insecurity observed at a precise moment and with severity that endangers people's lives and/or their livelihoods, regardless of the causes, the context, or the duration.[4]

The acute food insecurity scale is divided into five severity phases: *Phase 1 - Non (household classification)/Minimal, Phase 2- Stressed, Phase 3 - Crisis*, *Phase 4 - Emergency* and *Phase 5 Catastrophe (household classification)/Famine (area classification)/Probable famine (area classification).* (Figure 1.)

This is crucial to ensure different interventions and to approach each situation differently and as necessary. Thus, a range of valuable information can be provided to decision makers in order to

effectively address food insecurity and malnutrition.[5,6,7]

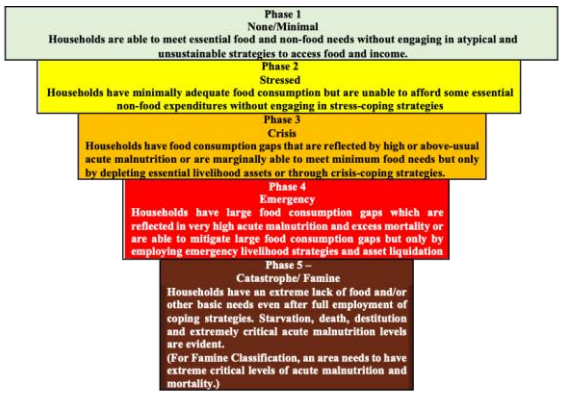

Figure 1. Acute Food Insecurity (AFI) scale of Integrated Food Security Phase Classification (IPC)
Source: Authors own interpretation of Integrated Food Security Phase Classification (IPC)

3. Results and discussion

Being the second largest country in Africa, DR Congo has a large population, which has grown significantly from year to year, especially in recent years. [8,9,10] It is possible that the previous data were not reported realistically, but at least in recent years, considerable efforts were made for the population census, which is why the demographic growth can be accepted as approximate and close to the real one.

Thus, in the context of food security, in addition to other factors that have contributed to food insecurity in this area, demographic growth can be considered a factor with a negative impact on it.[9,11]

If in 2017 the DR Congo population was estimated at approximately 78 million inhabitants, it would grow from year to year, as follows: by over 8% in 2018, by over 2% in 2019 compared to 2018, by approximately 19% in 2020 compared to 2019, by over 11% in 2021 compared to 2020, and the estimates for 2022 show an insignificant increase of 0.4%. These values of the demographic growth, so oscillating, may indicate precarious evidence of the population, but regardless of the growth percentage, it is confirmed that this demographic growth exists. Either this fact contributes negatively to the increase in the degree of food insecurity, especially among children who are newly born. (Table 1)

Table 1. Demographic dynamics and population classification D.R. Congo in Acute Food Insecurity (AFI) scale of Integrated Food Security Phase Classification (IPC) (mil. people)

Date of Analysis	Country Population mil.	Analyzed population mil.	Phase 1 None/Minimal mil.	Phase 2 Stressed mil.	Phase 3 Crisis mil.	Phase 4 Emergency mil.
Projected 2022	115.66	105.25	31.54	47.83	20.46	5.42
Sept 2021	115.20	102.26	30.79	44.45	20.92	6.10
July 2020	103.20	66.67	15.81	29.02	16.13	5.70
June 2019	86.79	59.87	17.26	27.03	11.66	3.92
June 2018	84.93	56.22	15.76	27.36	97.67	3.37
June 2017	78.37	71.72	0.00	64.01	61.64	1.48

Source: Integrated Food Security Phase Classification (IPC)

As the data presented shows, the population in different phases of the IPC increased, with the exception of *Phase 1 - Non (household classification)/Minimal,* which represents the population that is not at risk, or the risk is minimal.

It is interesting that, related to the year 2017, no person was reported as being in *Phase 1 - Non (household classification)/Minimal*, which is practically impossible, but it offers valuable clues regarding the increase in reporting accuracy in the following years, after 2017. Thus, it can be noted that in the most problematic phases, 3 and 4, in the last year 2021 and in the current year 2022, the situation almost stagnated. This denotes an ineffectiveness of the measures proposed and applied by international bodies, in order to reduce food insecurity in the DR Congo. (Figure 2.)

It is interesting to note that, although the situation over the analyzed years is far from positive in D.R. Congo, no individual or regional cases included in Phase 5 Disaster (household classification)/Famine (area classification)/ Famine Probable (area classification) were reported.

Compared to the less problematic phases, phases 1 and 2, the situation is different. The population of DR Congo reported as being from these phases has increased, but although it would seem a positive situation, must be take into account the aspect that the total population of the country has also increased, which changes the perspective on the analysis.

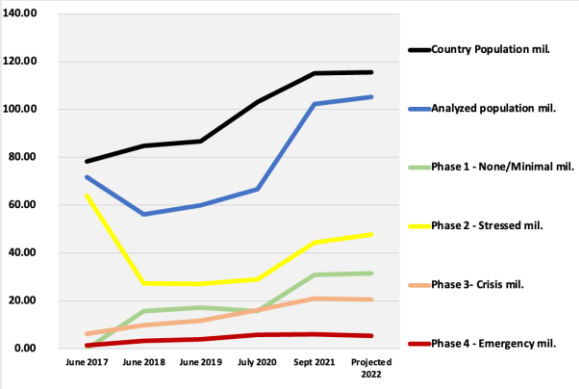

Figure 2. The dynamics of D.R. Congo in Acute Food Insecurity (AFI) of Integrated Food Security Phase Classification (IPC) (mil. people)
Source: Authors own interpretation

For this reason, we considered it relevant to analyze these values from a percentage point of view, based on the demographic growth achieved in D.R. Congo. (Table 2)
Although the pandemic has negatively affected food security at the level of the entire world population, in DR Congo the situation, which was already very serious anyway, did not worsen significantly in the estimates for the year 2022. [1,4,12]

In *Phase 1 - Non (household classification)/ Minimal*, which presents no risk or a minimal risk, although population estimates show that it has increased, the percentage is the same, 30%. Only in *Phase 2 - Stressed* the percentage increased by 2%, from 43% to 45%. In *Phase 3 - Crisis*, similar to *Phase 1-Non (household classification)/Minimal*, the level stagnated at 20%. The only truly positive situation is in *Phase 4 - Emergency*, where after the start of the crisis generated by the pandemic, the percentages dropped by 2%, from 7% to 5%. If we compare, however, the year 2020 with the year 2021, the situation is significantly more positive, in the sense that the percentage of people in *Phase 1-Non (household classification)/Minimal* increased by 6%, and they decreased in all other phases, respectively in *Phase 2- Stressed* by 1%, in *Phase 3 - Crisis* with 4% and in *Phase 4 - Emergency* with 2%.

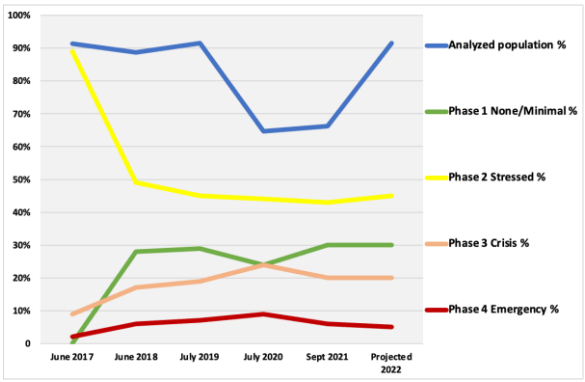

Figure 3. The dynamics of D.R. Congo in Acute Food Insecurity (AFI) of Integrated Food Security Phase Classification (IPC) (% of total population)
Source: Authors own interpretation

Table 2. Demographic dynamics and population classification D.R. Congo in Acute Food Insecurity (AFI) scale of Integrated Food Security Phase Classification (IPC) (% people of total analyzed population)

Date of Analysis	Analyzed population %	Phase 1 None/Minimal %	Phase 2 Stressed %	Phase 3 Crisis %	Phase 4 Emergency %
Projected 2022	92%	30%	45%	20%	5%
Sept 2021	66%	30%	43%	20%	7%
July 2020	65%	24%	44%	24%	9%
July 2019	91%	29%	45%	19%	7%
June 2018	89%	28%	49%	17%	6%
June 2017	91%	0	89%	9%	2%

However, what puts the present analyzes in a situation of uncertainty is the percentage of the analyzed population, which surprisingly decreased during the pandemic crisis, from 91% in 2019, to 65% in 2020, respectively to 66% in 2021. This fact could affect the real results in DR Congo. And for 2022, the 92% forecasts could only be overestimated, considering the previous years.

In this context, evaluating the provisional results from 2022, from the first semester, compared to the last four months of 2021, it can be concluded that food security is not in a state of improvement. (Figures 4 and 5).

In the NW of the country, the population in *Phase 4 – Emergency* is higher than in the last months of 2021, and in the Eastern regions, the state of food security has worsened for an important part of the population, moving from *Phase 2 - Stressed* to *Phase 3 - Crisis*.

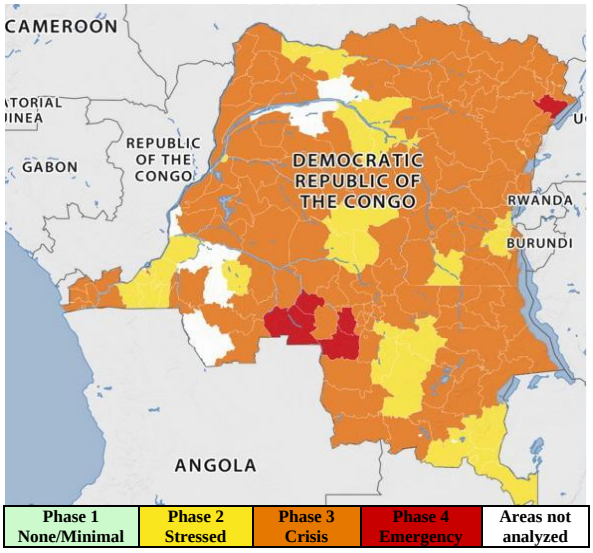

Figure 3. Sep 2021 - Dec 2021

Source: Integrated Food Security Phase Classification (IPC)

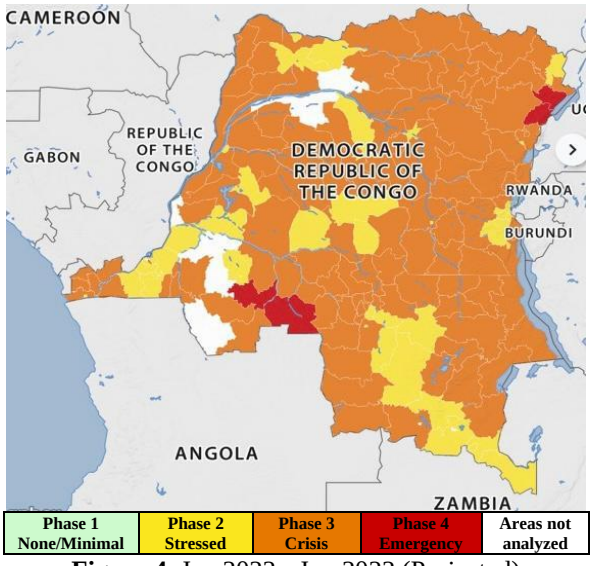

Figure 4. Jan 2022 - Jun 2022 (Projected)

Source: Integrated Food Security Phase Classification (IPC)

In addition, the same areas have remained not analyzed, being areas of major political and armed conflict, in which access by the authorities is almost impossible.

It can be estimated, however, that in these areas, which are not analyzed, are identical in 2021 and 2022, that have not been analyzed for years, the food security situation is extremely negative, the population being in precarious conditions of food insecurity.

With the intention to mitigate the effects of limited supply and rising food prices, the D.R. Congo government decided on July 18 2022 to abolish the value-added tax, also to remove 14 taxes, and to low down other 20 other taxes, for import and export. [14]

4. Conclusions

The analyzed data are collected by reliable international bodies, but the political and social conditions in DR Congo make their collection very difficult and, thus, their accuracy uncertain. As we have presented, it has not been possible, for years, to analyze the population of the entire DR Congo, as there are still large areas of the country where the access of national state institutions and, implicitly, international organizations, is practically impossible.

It is not currently known exactly what the demographic situation of DR Congo is, so that the state of food security of the population in these areas is not known. However, there is an improvement in the demographic evidence, but this improvement brings with it uncertainties compared to the data collected in previous years. [15,16,17] What is known for sure is the number of people in a state of food insecurity, people already identified in different phases of the IPC scale, and this fact is already enough to conclude that food insecurity in D.R. Congo is at high levels, and that no more 30% of the country's population is outside the risk. [7,18]

Also, it was not reported any individual or regional case included in *Phase 5 Catastrophe (household classification)/Famine (area classification)/Probable famine (area classification)*, in not any years of the analyzed period, 2017-2022, which is also very improbable to be realistic.

Although we are discussing about percentages, they actually represent people in a state of food

insecurity. Thus, every person matters, every life matters, and if the percentages decrease in one phase, that does not mean that the results are, if we analyze, positive, as long as millions of people suffer, in one form or another, from food insecurity.

In D.R. Congo continues it is still a particularly unstable political, economic, and social climate. If in the capital Kinshasa and the western part of the country, are not anymore scenes of violent clashes and demonstrations, in many other provinces armed gangs, non-governmental militias, ex-military and tribal groups are still active, carrying out assaults and raids with massacres of civilians. However, in D.R. Congo, most deaths are not generated by the violence of the ongoing conflicts, but rather by malnutrition and a poor medical system. Thus, food insecurity is one of the first two factors generating deaths in the D.R. Congo.[5]

The responsible international bodies, at all levels, should raise much stronger alarm signals, with a much higher impact on decision-makers, because every passing day can aggravate or kill people who are on the edge of existence, due to lack of food.

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